

Assessing Student Learning through Guided Inquiry: A Case Study of a Beginning Teacher

LISA A. D'SOUZA, ASSUMPTION COLLEGE

ABSTRACT

This study makes a contribution to the field of pre-service and in-service teacher education by focusing on formative assessment practices. A case study of a beginning teacher in an urban high school, conducted over a period of five years that included one pre-service year and the first four years of teaching, describes how the teacher came to understand and amend her assessment practices through guided questioning of student work. The case study is part of a larger university research project designed to understand the process of learning to teach. The outcomes confirm the value of using a guided inquiry interview protocol to help beginning teachers become reflective practitioners. The protocol specifically poses questions to engage teachers in discussions about the development of assessments, the impact of mandates, expectations for pupil learning, and future modifications. In essence, the case study provides a detailed description of how one beginning teacher's beliefs and practices changed over five years to reflect more refined thinking, despite limited professional support from school administrators and colleagues.

A multitude of studies over the past two decades have confirmed the significance of the teacher in student learning and achievement (Greenwald, Hedges, & Laine, 1996; Sanders & Horn, 1998; Tucker, 2011). A refinement of this idea is offered by Sharon Feiman-Nemser (2001) who argues, "what students learn is directly related to how teachers teach [and] depends on the knowledge, skills, and commitments they bring to their teaching and the opportunities they have to continue learning in and from their practice" (p. 1013). In order for teachers to "learn in and from their practice" they need ample opportunity to reflect on student learning, as evidenced by formative assessment, beginning with their preparation for teaching and continuing throughout their teaching career. This continuity of practice provides sustained opportunity for teachers to reflect on the relationship between teaching and learning.

One potential impediment to teachers' focus on pupil learning is a lack of emphasis on higher-order learning in some teacher preparation programs. The more common practice continues to be emphasizing "the acquisition of standardized routines that integrate management and instruction . . . rather than focus on student learning" (Athanases & Achinstein, 2003, p. 1487) or providing pre-service teachers with as many instructional strategies as possible before they begin teaching (Hiebert, Morris, Berk, & Jansen,

2007). When assessment is addressed, programs typically emphasize the construction of tests and other traditional measures, and give less attention to the 'formative' potential of assessments to inform instruction and enhance pupil learning (Hiebert et al., 2007; Shepard, 2001). As a result of this limitation, some preparation programs have shifted to a constructivist-oriented approach (Shepard et al., 2005) that builds upon pre-existing beliefs and knowledge, and encourages continuous reflection with the intent to change or at least challenge individual beliefs.

Constructivist-oriented practices offer an approach to achieving the potential of formative assessment by providing opportunities to use pupil work samples as a means of feedback that will prepare teachers to better meet the needs of their pupils (Black & Wiliam, 1998; Shepard, 2001; Shepard et al., 2005). Yet, few studies have been conducted to determine how teacher education candidates are prepared to use this type of assessment. Lorrie Shepard and her colleagues (2005) provide the foundation for this research with the suggestion that analyzing assessments and pupil work samples "help[s] new teachers develop an understanding of how such evaluations of learning can inform their instructional choices . . . [and] develop an appreciation of how learning unfolds over time, how different students learn, and how these students respond to their instruction" (p. 316–317). The process of analyzing pupil work samples facilitates the exploration of formative assessment as a tool for improving both learning and subsequent teaching. For the purposes of this study, formative assessment is described and demonstrated as a process that occurs over time and includes inquiry into practice and the examination of pupil work as feedback for instruction (Black & Wiliam, 1998; Cowie & Bell, 1999; Fluckiger, Vigil, Pasco, & Danielson, 2010; Lee & Wiliam, 2003).

If analyzing samples of pupil work is not possible, then evaluating learning opportunities in a more abstract way may be an alternative (Shepard et al., 2005). Engaging teacher education candidates in designing assessments and working with curriculum standards provide opportunities for evaluating important aspects of assessments (Atkin, Black, & Coffey, 2001). Domain mapping, which links curriculum frameworks with test items, makes it possible to determine if a test focuses on important aspects of the curriculum or on those aspects that are easiest to test (Shepard et al.). Although these learning opportunities are promising ways to inform teacher education candidates, the preferred approach is to focus on conceptual understanding and to relate assessment to instruction and, ultimately, pupil learning. Shepard and colleagues (2005) conclude,

Teacher candidates need experience identifying, constructing, and evaluating assessment tasks that tap conceptual understanding. They need opportunities to focus on assessment as a step in instruction so that they can see how assessment insights lead to next steps for students and for themselves. (p. 326)

In effect, Shepard and colleagues suggest that focusing on teaching concepts will contribute to the pre-service teachers' understanding of the value of students' learning to transfer knowledge to new contexts. In order to accomplish this end, teachers must avoid narrowed instructional practices that promote rote learning and teaching to the test.

The case study reported here adds to the limited research related to preparing teacher candidates to use reflective practices that are centered on pupil learning. The overall study design is based on the notion that teachers matter (Greenwald, Hedges, & Laine, 1996; Sanders & Horn, 1998; Tucker, 2011) and that developing the skills of a reflective practitioner is an essential means of improving pupil learning (Darling-Hammond & Bransford, 2005; Schon, 1983; Shulman, 1987). A key premise is that, unlike achievement that is demonstrated at a particular moment, *learning* for both teachers and pupils develops over time. The Student Learning, Student Achievement task force highlights this difference by noting that, "*student achievement* is the status of subject-matter knowledge, understanding, and skills at one point in time, while *student learning* is the growth in subject-matter knowledge, understanding, and skills over time" (Linn et al., 2011, p. 9). In order to describe growth "over time" the case study approach was used to focus on the changes in one beginning teacher's beliefs and practices about assessment and pupil learning over a five-year period that included one year of teacher education. Data include nine detailed qualitative interviews wherein the teacher reflected on her pupils' work using an innovative "talk-aloud" protocol. Thus the case study details how using the interview protocol enabled the researcher to gain deeper understanding about how and why the teacher's assessment practices changed over time, and also considers the value of the interview protocol for future research and practice.

THEORETICAL PERSPECTIVES

This study is informed by several key ideas from the sociocultural perspective on teaching, learning, and schooling: the importance of school context as a socially negotiated culture (Erickson, 1986; Gee, 1996); teaching and learning as value-laden activities (McDermott & Varenne, 1995) and the experience of learning to teach as a process involving individual beliefs and values that develop over time as the teachers interact with the realities of schools (Gee, 2003).

Based on the idea that teaching and learning are negotiated within specific contexts, a focal tenet of many sociocultural theorists is that all social practices are based on some set of cultural ideas; they are not value-free (Gee, 1996). Thus, teaching and

learning are immersed in societal ideas about education, schooling, learning, and assessment. Consequently, a key aspect in understanding how individuals learn to teach and reflect on pupil learning involves uncovering the beliefs and value systems they develop over time. Sociocultural theory provides a broad lens for exploring social behavior by emphasizing the role that culture plays in social interactions.

In addition, the study draws heavily upon educational anthropologist Margaret Eisenhart's (2001) conception of culture as a framework within which individuals interpret the world and act in it. She argued that it is not possible to capture contemporary life in terms of distinct cultures because, in their daily lives, individuals are constantly navigating among various cultures, and multiple roles and identities. Eisenhart noted that individuals adapt to constantly changing contexts by "actively appropriate[ing], construct[ing], and manipulat[ing]" (p. 211) meanings within given environments. This perspective suggests that the way teachers understand pupil learning is by uncovering the beliefs and value systems they develop over time. These value systems shape and are shaped in both university teacher education and school contexts.

RESEARCH METHODS

The larger project from which this study derives was designed by a research group of faculty members and doctoral students to explore the process of learning to teach using "thick description" (Geertz, 1973, p. 3). In keeping with the work of Geertz, this description intertwines cultural threads in participants' experience, providing in-depth qualitative data from multiple perspectives to explore and explain the experience of learning to teach. The multi-dimensional case studies examined the process from entry into a one-year pre-service program through the fifth year of teaching. The larger study was composed of 22 longitudinal case studies and examined the relationships among participants' entry characteristics; teacher learning in education coursework and fieldwork; teacher candidates' developing understandings of teaching, pupil learning, and social justice; teaching practices during student teaching and the first year of teaching; and pupils' learning. This larger interdisciplinary research effort began in 2004 as part of the Carnegie Corporation's Teachers for a New Era initiative at Boston College and was later supported by a grant from the Ford Foundation. The case study reported here makes use of a subset of the data to examine the effects of guided inquiry on one teacher's assessment practices over the course of five years—one year of teacher preparation, including student teaching, and her first four years in the classroom.

The Question

This longitudinal case study of a beginning teacher examined the results of integrating guided inquiry into formative assessment practices using samples of pupil work. The study addressed the question: How does a teacher working in a low-performing, non-collaborative, urban high school construct, understand, implement,

Table 1. Summary of Interview Schedule

| | |
|---------------------------------|-------------------|
| Year 1: teacher preparation | Interview 5 |
| Year 2: first year of teaching | Interviews 8, 9 |
| Year 3: second year of teaching | Interviews 10, 11 |
| Year 4: third year of teaching | Interviews 12, 13 |
| Year 5: fourth year of teaching | Interviews 14, 15 |

and revise assessments when using the Teacher Assessment/Pupil Learning Protocol (TAPL). The protocol, designed by the research team, uses an inquiry approach to analyzing pupil work samples, as recommended by the literature in the field. A description of this protocol is provided in the next section. During a five-year period, including one pre-service year, the teacher was asked to bring samples of pupil work to a series of nine interviews (see Table 1 for the interview schedule).

Teacher Assessment/Pupil Learning Protocol (TAPL)

Since one overarching goal of the larger project was to gain a sense of how teachers articulate their understanding of created learning opportunities and the ensuing pupil learning, a “talk-aloud” interview protocol focused on assessment was developed and inserted into nine of the fifteen interviews (see Table 2 for the protocol). Developed as part of the larger research study, the TAPL protocol was the result of ten educational researchers’ collaborative efforts to design a tool to be used in qualitative interviews with 22 teachers over a five-year period. Prior to drafting the protocol, the team reviewed relevant literature with an emphasis on the work of Newmann and his colleagues (1996) that focused on authentic assessment. After multiple iterations, the team developed the first TAPL protocol and piloted it on two individuals outside the study who possessed similar characteristics and taught in similar educational contexts. The concerns that surfaced in the pilot interviews were brought to the larger team, and after further revision another round of pilot interviews was completed. Feedback from the second round of pilot interviews resulted in further refinement to the protocol including additional probing questions to be used as necessary to better articulate the themes of the project.

As a qualitative interview protocol, the validity of the tool is best demonstrated through the “credibility” and “transferability” of the protocol (Teddle & Tashakkori, 2003). “Credibility” refers to making qualitative interpretations more authentic. “Transferability” is assured when findings occur in multiple contexts. In order to achieve these qualities, the research team drew on Hill, Thompson, and Williams’ (1997) “consensual” approach to team research. The research team used the same protocol across all 22 cases and then worked inductively to arrive at “consensus judgments” (p. 521) about data coding and frameworks for analysis. Furthermore, the team placed emphasis on the comparison of results between

Table 2. Internal TAPL Protocol

Interview Question Categories and TAPL Interview Questions

1. Description of Assessments and Classroom/School Context

Questions related to the creation, implementation, sequencing, and rationale for use of the assessment.

How do these assignments fit into a larger unit?

Probes:

- Was this something you devised yourself?
- Was any part of this lesson from a preexisting lesson that you adapted?
- Why did you decide this lesson/assignment/assessment would be appropriate? How much autonomy did you have in creating the lesson or assignment?

2. Evaluation

Questions related to pupil learning goals on the assessment and teachers’ understanding of how pupils met goals and demonstrated proficiency.

- What did you want students to get out of this activity?
- How do you know whether or not students accomplished what you wanted them to get out of this activity/lesson/unit?
- Probe: How did you evaluate these assignments (rubric, scoring, etc.)?

3. Change

Questions related to how well the assessment worked and how it might be altered for future use.

- Is there anything you would change about this lesson or assignment or unit? What? Why?

4. High, Medium, and Low

Questions related to the selection of high, medium, and low examples of pupil work; the context related to these examples and pupils; and comparisons between these pupils’ performances and the performance of the whole class.

- Let’s now look at your examples of a high-, a medium-, and a low-level response. How do these samples compare to the overall class?
- Probe: Is this work representative of the class? Is this what you expected?
- Did the students who completed these examples meet your expectations? Why or why not?
- Probe: What might you do differently in the future for each of these students?
- Why did you choose these?
- Probe: Tell me about these three students (SPED, ELL, Bilingual)

Note: The full TAPL protocol designed by the larger Qualitative Case Study Project at Boston College included both an internal and external evaluation. Principal investigators on the project were: Marilyn Cochran-Smith and Patrick McQuillan at Boston College. Only the internal evaluation was used in this study. See D’Souza (2008) and Gleeson, Mitchell, Baroz, & Cochran-Smith (2008) for details on the external evaluation.

cases in an authentic context as each participant was a practicing teacher who brought work samples from their actual pupils to the interviews.

More specifically, the TAPL evaluation involved participants collecting assessment tasks and pupil work samples periodically throughout the school year. These included one culminating assessment and two assignments leading up to that assessment. In the

interview, teacher candidates described the assessment tasks and larger unit from which each task derived. Teachers also evaluated learning goals, pupils' performance on the assessments, and changes they might make on the assessment. Then they selected examples of "high," "medium," and "low" pupil performances from the work samples and addressed questions related to pupils' learning as demonstrated on these assessments. This study used data collected from the TAPL portion of the interviews to determine how a teacher engaged in reflective practice when guided through the TAPL protocol.

The Teacher

The TAPL data used for this study centered on one teacher, Elizabeth, who was selected foremost because of her participation in the study over the five-year period and her rich, detailed interview responses. She was not the only teacher to share such detail, but she consistently came to the interview with all the requested pupil work samples. Furthermore, Elizabeth was selected due to the unsupportive context in which she worked. Even as she demonstrated the potential benefits of guided inquiry, in her school there was a lack of administrative support, limited opportunities for faculty collaboration, and lack of strong parental involvement—exactly the type of school environment where pupil learning remains a major concern as a result of continued poor performance on state tests.

Elizabeth, a 22-year-old Anglo-American female, grew up in an affluent suburb of a large New England city and excelled in her own education. She was academically self-motivated and sought extra help in math, her most difficult subject in high school. After receiving her Bachelor's degree in English from a selective Jesuit university, Elizabeth entered a highly competitive Master's degree program in secondary English with a focus on urban education. She was not planning to pursue a teaching degree until she had a rewarding experience tutoring inner-city youth during the latter part of her undergraduate schooling.

Elizabeth's commitment to urban youth, combined with her work ethic and organizational skills, all contributed to her success in both the Master's program and her teaching position. Elizabeth's pre-practicum, full-practicum, and early years of teaching were in an under-resourced, low performing urban high school in a large New England city. The school, located in one of the poorest sections of the city, was beset with gang violence. It was considered a "last chance" high school for pupils who failed at other schools. The high school consistently ranked among the bottom group for student achievement, college attendance, teacher retention, and pre-graduation dropout rate (50% of the student population). Elizabeth's classroom lacked a computer, printer, overhead projector and screen, locking filing cabinets, and white boards. In addition, she struggled with the limited support provided by her principal, administrative personnel, and parents. Familiar with the difficulties facing the school and steadfast in her commitment to urban education, Elizabeth has continued to work at the same high school for the last six years. She began a part-time doctoral program in urban

leadership at the conclusion of her third year of teaching. She has no immediate plans to leave her current position and intends to remain in the field of education for her career.

Data Analysis

As George and Bennett (2005) suggest, the strongest means of drawing inferences from cases is to first understand the case in-depth. This enables the researcher to reduce the data to get at the essence of the individual case within its context and in terms of its specific conditions (Stake, 2006). Themes or patterns used across cases to help interpret a larger data set must first have explanatory power in one case before they are applied more broadly (Ayres, Kavanaugh, & Knafl, 2003). Thus, the analysis of Elizabeth began with a detailed case narrative, drawing on key excerpts from interview and observational data. The structure for the narrative analysis included these categories, such as entering characteristics and teachers' experiences with content and pedagogy, learning and assessment, and efforts to teach for social justice. The "conceptual structure" (Stake, 2006, p. 3) or working theory of the case derived from the interplay of patterns and themes that emerged from the case in its particular context and conditions. The case was then used in conjunction with detailed coding of the individual interview transcripts with a focus on the interview excerpts related to pupil learning and assessment. Each interview was examined in its entirety while identifying codes related to pupil learning (see Table 3). The data were read a number of ways to ensure openness to "new perspectives" (Charmaz, 2000, p. 515) of the material. Data were first read chronologically and then in reverse chronological order. Next the interviews were read by question. For example, the response to "How do these assignments fit into a larger unit?" was read for all nine of Elizabeth's interviews, and then the response to the second question "What did you want students to get out of this activity?" was read for each interview. Finally, the interviews were read by assessment type, beginning with all the interviews that focused on teacher-developed assessment and followed by those that focused on school-mandated assessments. This last strategy was employed because Elizabeth's district required a number of assessments to be used across all high schools as a measure of consistency and comparison. Completing multiple reviews of the data helped to ensure that "unforeseen directions" (Charmaz, 2000, p. 515) in the data analysis were identified.

Finally, codes were collapsed to yield three larger categories—beliefs about assessment, use of rubrics, and responsibility for learning. Table 3 shows how the various codes were collapsed. Developing these categories involved "successive iterations" (Miles & Huberman, 1994, p. 256), wherein data were reorganized according to broader analytic interpretations (Coffey & Atkinson, 1996; Glaser & Strauss, 1967). One of the more important aspects of category development involved verifying that the relationships made sense by searching for "patterns, themes, regularities, as well as contrasts, paradoxes, and irregularities" (Coffey & Atkinson, 1996, p. 47). Consequently, a process of testing various data sources, both confirming and disconfirming, and revising the

Table 3. Coding Analysis**Pupil Learning Codes***(1, 2, 3 denotes the category below in which this code was present)*

| | |
|-----------------------------|-----------|
| Autonomy and mandates | (1, 2) |
| Assessments: tests, papers | (1, 2, 3) |
| Classroom management | (2) |
| Pupil effort and motivation | (1, 2, 3) |
| Expectations | (1, 2) |
| Grading | (1, 2) |
| Perseverance | (1, 3) |
| Planning and instruction | (1, 2) |
| Pupil ability | (3) |
| Pupil relationships | (3) |
| Reflection | (1, 2, 3) |
| Resources | (2) |
| Scheduling | (1) |
| School context | (1, 2, 3) |
| Social justice | (1, 3) |

Categories

1. Beliefs about assessment

2. Using rubrics

3. Responsibility for learning

Note. This is an overall list of codes that includes the categories in which each code was placed

associated categories, was used. This process provided the necessary framework for analyzing teachers' focus on pupil learning using a close examination of category formation to identify meaningful explanations (Glaser & Strauss, 1967).

THE LONGITUDINAL QUALITATIVE FINDINGS

The results of this qualitative study highlight the breadth as well as the depth of detail that was collected using the TAPL protocol. The effectiveness of the protocol in engaging teachers in reflective thinking and encouraging pupils to do the same are also evident. The inquiry-based interview technique detailed clear changes in Elizabeth's views on assessment and pupil learning over a five-year period. Data showed that by her third year of teaching, Elizabeth encouraged pupil self-reflection on personal learning experiences during process writing. The second section of the findings focuses on how Elizabeth struggled with the use of rubrics during her initial years in the classroom. This example provides evidence of the difficulties Elizabeth faced when making decisions about how to assess pupil work. It also offers a sense of the role the school context played in Elizabeth's learning process. Most importantly, Elizabeth's use of rubrics provides evidence, gathered through guided inquiry, of her struggle to improve pupil learning over her pre-service year and her first four years of teaching.

Perspectives on Pupil Learning

Detailed analysis of Elizabeth's ideas about improving pupil learning demonstrated a notable shift from a focus on narrow, specific areas where she could make improvements in individual

assignments to a broader focus on developing long-term learning objectives to better prepare pupils for college. For example, during her student teaching, Elizabeth focused on providing practice in revisiting text to hone analysis skills. She developed a comprehensive unit where pupils completed mini-lessons and then developed each step of their essay with Elizabeth's support. In addition, Elizabeth focused her time and energy on working with pupils individually in the areas where they struggled to succeed. This centralized effort changed to some degree as Elizabeth moved to her first year of teaching. For example, she described a larger pedagogical strategy she would change when teaching the unit again, *"I think I would . . . break the students up into groups and have them do reading groups."* Although Elizabeth had ideas for improving instruction, she wished she had given more frequent assessments and "planned backward" more effectively. She explained, *"planning backward, I'm still not doing a very good job at that [meaning] what is it that I want them to learn because I'm doing everything the first time so I feel like it's very hard for me."* As a result of Elizabeth's desire to plan backward, she set a goal during her second year to develop a long-term calendar that listed every assignment due each month.

During her second year Elizabeth lamented on the fact that she had not achieved her desire for long-term planning each month, but she strove to set very clear objectives for her pupils which were intended to increase their independence. In addition, Elizabeth wanted pupils to be able to develop their own argument for their papers without being guided by a specific question offered by the teacher. Elizabeth believed this type of writing would be the best preparation for transitioning to college writing. By Elizabeth's third year, she developed a more sophisticated understanding of assessment. She went from acute attention on one individual assignment during her student teaching to a well-developed set of goals for how she could better guide her pupils learning through long-term planning objectives and more expected pupil autonomy.

Although Elizabeth was more confident in her assessment practices during her third year, she continued to reflect on how she could improve her pupils' learning. Some of her goals were very specific, for example, providing exemplary pieces as model papers. Doing so, she believed would *"give them more sense of quality"* for the level of expectation. Furthermore, at the conclusion of her third year, Elizabeth set a goal to design a unit with a capstone event showcasing pupil work in an authentic context. She believed this would provide additional incentives for pupils to work more diligently on drafts in anticipation of a public review. Elizabeth also set a goal to *"teach them how to be better revisers . . . I wished they did more drafts on their own. That definitely would help them."* She continued to believe that she needed to develop her students' sense of independence and ownership for their own learning.

A final important development in Elizabeth's understanding of assessment, identified during her third year, was her goal of including more reflective writing exercises in her units. She hoped the process of pupils reflecting on their own learning would push their understanding of the writing process to the next level. Elizabeth explained,

The one thing I wish I did was ask the pupils to reflect on this product because I would have liked to have known what they did feel like they've learned that they can take with them the next year . . . the final reflections [are] where I feel like I get the most information about the students and their attitudes towards what they're learning.

Elizabeth's goal of including pupil reflection in her teaching was evident in her fourth year; she included a meta-cognitive paper in which pupils reflected on their final project as well as the process they used to develop it. She hoped this process would encourage her pupils to become "more independent thinkers."

Elizabeth's case demonstrates the benefits of guided inquiry over the beginning years of teaching, as she was able to describe in detail her focus for evaluating pupil learning as well as her goals. It became apparent that her beliefs about improving her practice changed from very specific ideas about one assignment to larger curricular changes focused on how pupils demonstrate their learning. It should not be entirely surprising that Elizabeth struggled with long-term expectations during student teaching, as she was only in the classroom for 10 weeks so there was little opportunity for long-term planning. However, the growth that is evident from Elizabeth's first year to her fourth year is noteworthy as she articulated the benefits of requiring many writing exercises including reflective pieces, which push pupils to think about the process of learning to write. By her fourth year of teaching, Elizabeth viewed improving her instruction and assessment as an endless cycle, "I'm never satisfied to just 'let me get the binder out and do the exact same thing.' There's always things you want to make better."

Using Rubrics in an Unsupportive School Context

Elizabeth also demonstrated a change in her understanding of assessment when detailing her use of rubrics to evaluate literary essays. As a secondary English teacher, Elizabeth believed pupil mastery of literary essays was a key assessment of her practice. The issue, however, was grading. During her student teaching, she lacked the confidence to read through an essay and identify it as an "A" or a "C" paper. This lack of confidence in her ability to score a paper holistically initially led her to use rubrics to assess the culminating essays her pupils created during her student teaching. She used a rubric as a way to validate the essay grades to her pupils, administrator, and parents. However, even with the rubric, she was unsure of herself. Elizabeth waived saying, "even with the rubric, I still feel like sometimes [the students] are going to ask me . . . I don't even know if I know how to articulate [their grade] because in grading English papers, I think it's so hard . . . it's not right and wrong." However, during her first year of teaching, Elizabeth began to think of rubrics as a more formative tool through which her pupils could assess their own papers and make revisions. She made it a standard practice to give her pupils the rubric at the beginning of the unit and then use it to point out to pupils where they could make improvements on their rough drafts. In this way, the rubric became a tangible guide for pupils to use to improve their writing.

The most striking change in Elizabeth's thinking about rubrics, however, came during her second year when she decided not to use a rubric on the final essay of the year. She felt confident that her comments alone would justify the grade. She explained:

I didn't use a rubric for this. I just decided that for this last paper for [the students] that I was just going to write comments . . . I've read so many papers, and I'm able to kind of have a little stronger footing as a C paper versus a B paper.

During her second year, Elizabeth also became adamant in her belief that rubrics had been designed to hold teachers accountable instead of as a tool to support learning. This idea was likely a result of her district's requirement that each final product in a pupils' portfolio include a rubric. She exclaimed, "I really believe that rubrics are just making teachers accountable. It has nothing to do with the student. I believe in telling students what it is that you expect out of them [but not necessarily in the form of a rubric]." Thus, Elizabeth suggested that in some instances the assignment alone should be enough to explain the criteria necessary to guide pupils in meeting expectations.

Although Elizabeth expressed her increased confidence in grading, she still admitted that without working with others she had no way to validate her methods. She explained, "I don't collaborate with other people on these . . . so this is only what I think. So perhaps that's the major downside of it." Although Elizabeth felt confident that she could grade papers without a rubric during her second year of teaching, she still waived somewhat on this practice as she had no discussions with colleagues regarding their experiences with grading. Elizabeth desired to be in a community of learners where assessment practices could be exercised and revised collectively; instead she worked at a school where teachers were isolated in their practice.

In fact, Elizabeth admitted she felt like a "Lone Ranger" in her efforts to continue to improve her instruction. The lack of support from the administration at her school extended beyond the need to manage student attendance and behavior; it also affected her opportunities for professional growth as a teacher as well. Elizabeth believed she was working against the culture of the school when focusing on pupil learning as she believed she should be held accountable by school administrators to improve her practice. Instead, she was rarely observed before she was given professional status, an achievement usually earned after three to five years, and which was granted to Elizabeth after just one year in the classroom. She explains, "I was given free rein to do what I wanted to do and that's nice in some regards and then other times I'd feel like I should be held to some standard." By the conclusion of her fourth year, Elizabeth was discouraged by the lack of feedback on her teaching from the administration:

No one's coming in to challenge me to be better as a professional [and] that's really becoming very frustrating. I feel like there's nowhere higher to go here in terms of becoming a better teacher. In terms of professional growth I feel I've really reached a stagnant

pool here. I feel that more now as a fourth-year teacher and I wonder if other teachers feel the same way about working here?

Despite the lack of administrative and collegial support, Elizabeth persevered in her commitment to pupil learning by finding support outside her school.

During Elizabeth's third year of teaching, she was assigned an Advanced Placement (AP) English class. As a result of her shift in focus to the AP exam, Elizabeth developed a new perspective on rubrics through her engagement with an on-line AP forum. Her desire to work with colleagues on planning and assessment pushed her to search for support from other AP teachers across the country since her colleagues at her school did not provide the collaboration she hoped for as a beginning teacher. During one of her many conversations through the forum, Elizabeth received a one-page rubric from an experienced teacher which renewed her interest and support of rubrics. Unlike her experiences in the past where she believed rubrics were used to hold teachers accountable, this rubric included broad categories for teachers to highlight the general categories and give feedback, but not assign specific points to each section. She explains:

I've been able to use it for most grades and most classes and it's very comprehensive but the best part about it it's one page . . . there are three major categories and then there are subcategories, organization, content, ideas, use of text and then language and mechanics. And there is a gradation system, excellent, good, average, needs much improvement, not acceptable. And I like it because it falls in one sheet and it's easy for students because I highlight where they fall and it's just easy for students to see where they are and what room they have for improvement . . . So I just liked how this was presented because there are no numbers . . . And I think that's why rubrics drive me crazy because you're trying to fit kids into a number system.

In addition to Elizabeth's success using the new rubric to provide feedback to her pupils, she also used this same rubric for pupil self-assessment during the draft phase. By her third year and continuing through her sixth year, Elizabeth found a more open-ended, condensed rubric to fulfill her goals for clear feedback, both formatively and summatively, as well as providing an opportunity for her pupils to assess their own progress.

Elizabeth's reflection on her use and understanding of the purpose of rubrics reflects a strong change over time. She initially believed rubrics were her way to articulate her grades in a highly visible manner. By her first year, she saw rubrics as a formative tool to help pupils improve their final papers. During her second year, she found herself "rubriced out" as she was forced to use rubrics for all major assignments that were placed in pupil portfolios. Although it is difficult to know if Elizabeth would have developed the same distaste for rubrics had her district not mandated their use on a large-scale, it is evident that she didn't believe she needed to be held accountable in such a rigid manner. Finally, during her third year and continuing through her sixth year, Elizabeth articulated the benefits of using a rubric if it is designed well and

provides clear direction for pupil improvement without the tedious number counting used in some rubrics.

DISCUSSION

The findings reveal the benefits of an inquiry approach in supporting teachers' changes in beliefs and practices over time. They support the use of guided inquiry to facilitate teachers in developing a stronger inquiry-stance on learning and encouraging their pupils to do the same. The interview technique required Elizabeth to remain a reflective practitioner even though her school context rarely pushed her in a similar direction. In addition to Elizabeth's participation in the study, her frustration level regarding the continued lack of professional support was further highlighted when, in the summer before her fourth year of teaching, she enrolled in a doctoral program that focused on urban leadership. The program gave Elizabeth opportunities to network with individuals in other urban schools where the administration provided positive support for teachers, held high learning standards, and instituted sound attendance and discipline policies. This program also sparked Elizabeth's interest because she believed there was so much more for her to learn about "why students perform the way they do" and "the layers of their thinking." As such, Elizabeth's view of assessment and pupil learning were influenced by her experiences in studying theory, learning about successful urban schools, and meeting personnel from other area schools.

The inclusion of the TAPL (see Table 2) protocol engaged Elizabeth in the discussion, collaboration, and reflection she found lacking in her school context. It provided her with an opportunity to express her ideas, concerns, and goals in a non-judgmental way. This was a result of the design of the research study. It was not designed as action research and consequently, the researchers asked the questions and prompted thinking, but did not provide feedback on the participant's teaching. This is a key element in this study, as using guided inquiry gave the teachers an opportunity to think aloud about their practice and future changes to their practice without fear of negative evaluations.

IMPLICATIONS FOR RESEARCH AND PRACTICE

This study makes a contribution to both pre-service and in-service teacher education by providing insights into how beginning teachers understand and amend assessment practices through guided questioning of pupil work using the TAPL protocol (see Table 2). The dialogue highlights the complexities of assessment and related struggles facing beginning teachers as they develop learning goals, grapple with long-term planning, and navigate school contexts. The TAPL protocol specifically poses questions to engage teachers in discussions about the development of assessments, the impact of mandates, expectations for pupil learning, and future modifications based on pupil learning outcomes, all of which provide a window into the complex process teachers employ when assessing their pupils.

Thus, this study supports the limited research on preparing teacher candidates for constructivist-oriented assessment practices. The findings suggest that analyzing assessments and pupil work “help[s] new teachers develop an understanding of how such evaluations of learning can inform their instructional choices . . . [and] develop an appreciation of how learning unfolds over time, how different students learn, and how these students respond to their instruction” (Shepard et al., 2005, p. 316–317). Thus, the rich data gathered from the TAPL protocol benefit researchers in two ways: (1) they inform the process of learning to teach for pupil learning, and (2) they show how beginning teachers can be provided opportunities to explore their thinking about pupil learning in a non-judgmental environment.

Another contribution that this study makes to the field is evidence in support of formative assessment as a process that teachers can use to improve pupil learning. Although still a relatively limited focus, formative assessment has been an increasingly prominent topic of inquiry in the last decade (Broadfoot & Black, 2004; Brookhart, Moss, & Long, 2010). This study was grounded in the idea that formative assessment is a continuous process that teachers employ to better understand pupil learning and enhance future instruction (Black & Wiliam, 1998). Building from the three studies (Cowie & Bell, 1999; Dekker & Feijs, 2005; Lee & Wiliam, 2003) that followed Black and Wiliam’s (1998) recommendation that formative assessment studies include a longitudinal perspective, this study provides the perspective of one teacher as she grappled with assessment across a five-year period. The data imply that teachers should be provided with coursework focused on formative assessment during teacher preparation, and then given ample opportunity to develop and assess pupils formatively during student teaching with the guidance of supervising practitioners and university supervisors. During their early years of teaching, beginning teachers should be guided by supportive mentors. In addition, in cases like Elizabeth’s where the school context remained unsupportive, engaging the university as a bridge between “student of teaching and teacher of students” (Ingersoll & Strong, 2011, p. 203) is essential. The involvement of higher-education faculty provides continuity of support for the novice teacher and has the potential to help develop a partnership focused on improving pupil learning through guided inquiry. The idea of higher education taking a role in providing support to their teacher graduates is not new (Berry, 2006; Boyer, 2005; Peter & Du Mez, 1997); however, developing the university’s role as a bridge that specifically links learning to teaching and pupil learning is relatively novel.

A final contribution this study makes to the field is providing evidence for the benefit of guiding teachers to develop inquiry skills in their pupils. Following Fluckiger and colleagues (2010), whose study found that engaging university students in formative assessment practices greatly improved their learning process, the findings of this study reinforce the need for teachers to engage with pupils in reflective practices. As Elizabeth became more experienced in her practice and more sophisticated in her thinking about assessment, she realized that engaging pupils in reflective

thinking about their own learning was an essential part of the learning process. Through her own inquiry into her learning as a teacher, she articulated how important it was for her to grasp what her pupils believed they had learned and where they still felt they needed to grow, thus realizing the goal of formative assessment, to inform both teachers and learners.

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Lisa A. D'Souza is an assistant professor at Assumption College. Professor D'Souza can be reached at ldsouza@assumption.edu.

